

JPRS-TND-85-011

26 June 1985

Worldwide Report

**NUCLEAR DEVELOPMENT
AND
PROLIFERATION**



FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

26 June 1985

WORLDWIDE REPORT

NUCLEAR DEVELOPMENT AND PROLIFERATION

CONTENTS

ASIA

AUSTRALIA

Aborigines Defy Canberra, Buy Uranium Mine Shares
(Brian Johnstone; Sydney THE AUSTRALIAN, 11 Apr 85)..... 1

Briefs
French Nuclear Test..... 2

JAPAN

New Development Applicable to Nuclear Fusion
(Tokyo KYODO, 30 May 85)..... 3

Demonstration ATR Nuclear Power Plant To Be Built
(Tokyo KYODO, 31 May 85)..... 5

PAPUA NEW GUINEA

French Tests To Continue at Muraroa
(Moresby PAPUA NEW GUINEA POST COURIER, 9 May 85)..... 6

EAST EUROPE

BULGARIA

Late Delivery of Equipment to Nuclear Power Unit Criticized
(Sofia RABOTNICHESKO DELO, 17 Apr 85)..... 7

LATIN AMERICA

ARGENTINA

Alfonsin Speaks at CNEA Anniversary Event (Raul Alfonsin; Buenos Aires Domestic Service, 31 May 85)...	11
Briefs	
Research Reactor for Algeria	14
FRG Nuclear Cooperation Denied	14

ECUADOR

Briefs	
Ecuador's View on Disarmament	15

NEAR EAST/SOUTH ASIA

INDIA

Fast Breeder Reaction Begins New Phase of N-Power (S. Parthasarathy; Madras THE HINDU, 4 May 85).....	16
Commentary Discusses Nuclear Policy, Pakistan (Delhi General Overseas Service, 10 May 85).....	18
Nuclear Weapons Capability Opposed (Editorial; Delhi INDIAN EXPRESS, 15 May 85).....	20
Enriched Uranium From France Arrives (Hong Kong AFP, 25 May 85).....	21
Briefs	
Indo-Soviet Nuclear Cooperation	22

PAKISTAN

Atomic Energy Chief Expresses Views on NPT (Islamabad THE MUSLIM, 4 May 85).....	23
Commentary Views 'Luxury' of Nuclear Weapons (A.M.K. Maswan; Karachi Domestic Service, 17 May 85).....	24
Smooth Flow of Essential Supplies for Plants Urged (Karachi DAWN, 11 May 85).....	25
Briefs	
Uranium Exploration in Sind	26

SUB-SAHARAN AFRICA

NIGERIA

Minister: Uranium Not Yet Found in Economic Quantities (Kaduna NEW NIGERIAN, 22 Apr 85).....	27
---	----

SOUTH AFRICA

Production of Enriched Uranium Planned (Johannesburg MINING WORLD, Apr 85).....	28
--	----

USSR

U.S. Aid Encourages Pakistan's Nuclear Ambitions (Moscow Domestic Service, 12 May 85).....	29
---	----

WEST EUROPE

FINLAND

Soviet, Swedish Designs for Small Reactor Studied (Risto Valkeapaa; Helsinki HELSINGIN SANOMAT, 27 Apr 85)....	31
Local Authorities Getting More Power To Decide Reactor Sites (Helsinki HELSINGIN SANOMAT, 5 May 85).....	33
Preparations for Spent Nuclear Fuel to Soviet Union Described (Helsinki HELSINGIN SANOMAT, 14 May 85).....	35
Special Train Leaves for USSR With Spent Reactor Fuel (Helsinki HELSINGIN SANOMAT, 28, 29 May 85).....	37
Fuel Supplied in 1980	37
Train Departs From Loviisa	39
Favorable Decision on Fifth Nuclear Plant Expected Soon (Helsinki HELSINGIN SANOMAT, 30 May, 1 Jun 85).....	41
Ministry Ready to License	41
Paper Cites Decreasing Opposition	41

FRANCE

Briefs	
Mururoa Atoll Nuclear Test	43

SWEDEN

Minister in Policy Address Rejects Storing Foreign Spent Fuel
(Kaa Eneberg; Stockholm DAGENS NYHETER, 21 May 85)..... 44

Nuclear Fuel Processing Firm Would Exchange Waste With FRG
(Ingemar Lofgren; Stockholm DAGENS NYHETER, 24 May 85)..... 46

AUSTRALIA

ABORIGINES DEFY CANBERRA, BUY URANIUM MINE SHARES

Sydney THE AUSTRALIAN in English 11 Apr 85 p 1

[Article by Brian Johnstone]

[Text]

THE Aboriginal traditional owners of the Koongarra uranium deposit in the Northern Territory have agreed to become joint venturers in the proposed \$150 million development project.

The deal is in defiance of the Federal Government, which wanted the site of the uranium project returned to the Kakadu National Park in line with its policy which prevents any further development of uranium mines in Kakadu.

The Aborigines have reached agreement to take up 25 per cent equity in Koongarra Ltd, the company which holds the project lease.

It is estimated the Aborigines could receive more than \$300 million from cash, annual rental and royalty payments and royalty equivalents paid to the Government for distribution back to affected communities over a 14-year period.

The agreement between the Aborigines and Denison Australia Ltd, the project developer, was reached at a two-day meeting at the mine site late last week, according to sources close to the negotiations.

The meeting was attended by the main traditional owners and a large official party which included Denison managing director, Mr Kevin Tor-

pey, and the Northern Land Council chairman, Mr Galarrwuy Yunupingu.

Denison and the NLC, which has negotiated the joint venture deal on behalf of the traditional owners, yesterday refused to confirm or deny the existence of an agreement.

It is understood they intend to remain silent until the equity agreement is ratified by outlying affected communities at the full Northern Land Council meeting in Darwin next month.

The traditional owners instructed the NLC to continue negotiations with the mining company despite requests from the Federal Government to suspend them.

The mine site is on a 12 sq km excision which lies in the shadow of Nourlangie Rock, a popular tourist destination in Kakadu National Park.

The Federal Government wants the traditional owners to return the area to the park.

The financial details of the equity deal are confidential but a negotiators' document obtained two years ago gives some guide to the financial arrangements.

At that stage the traditional owners had been offered 10 per cent equity in Koongarra Ltd at an estimated cost of \$30 million.

AUSTRALIA

BRIEFS

FRENCH NUCLEAR TEST--France is reported to have carried out another nuclear test at its Mururoa Atoll test site in the South Pacific. New Zealand Government scientists said the explosion, estimated to have the strength of less than 1 kiloton of conventional explosive, was monitored by seismologists in the Cook Islands. It is the 71st test reported at Mururoa Atoll since France began underground testing there 10 years ago and the 4th so far this year. [Text] [Melbourne Overseas Service in English 0400 GMT 11 Jun 85]

CSO: 5100/4310

JAPAN

NEW DEVELOPMENT APPLICABLE TO NUCLEAR FUSION

OW300217 Tokyo KYODO in English 0140 GMT 30 May 85

[Text] Sendai, 30 May KYODO--A team of researchers at Tohoku University Wednesday succeeded in attaining the world's strongest magnetic field, an achievement believed useful to the development of superconductive material for a future nuclear fusion device.

According to the superconductive material development facility of Tohoku University's Metal Material Research Institute, the world's previous highest magnetic flux density was 30.4 tesla, recorded by the Massachusetts Institute of Technology (MIT).

Tohoku University's researchers said they succeeded in raising this level to 30.7 tesla.

They said they believe this is the highest rating ever attained for a regular type "strong" magnetic field.

The latest experimental accomplishment could prove useful in the development of nuclear fusion.

In the Tokamak type of nuclear fusion process being studied in Japan, it is necessary to contain plasma within a "strong" magnetic field. The Japan Atomic Research Institute's jt-60 has a magnetic field of 4.5 tesla, but institute officials hope to raise this to 20-30 tesla in the future using a superconductive magnet.

The development of a superconductive material strong enough to withstand a "strong" magnetic field is said to be one of the key to raising the tesla-level.

The researchers said that the 30.7-tesla level was developed by a device called a hybrid magnet, consisting of water cooled and superconductive magnets.

The university's device, which has been under development for three years, has a superconductive magnet on the outside and a water cooling magnet on the inside.

Prof. Yoshio Muto said the superconductive magnet produced 11.1 tesla and the water cooling magnet 19.6 tesla, adding that a combined 30.7 tesla "strong" magnetic field was seen for about five minutes in a space measuring 30 millimeters in diameter.

CSO: 5100/4524

JAPAN

DEMONSTRATION ATR NUCLEAR POWER PLANT TO BE BUILT

OW310621 Tokyo KYODO in English 0555 GMT 31 May 85

[Text] Tokyo, 31 May KYODO--A government-industry committee Friday endorsed a plan to build a demonstration plant for an advanced thermal reactor (ATR), an improved version of the light water reactor, that can use plutonium from spent fuel.

The go-ahead was given by the committee comprising government departments and affiliates--including the ministry of international trade and industry (MITI)--and the electric power industry.

The plant will be built by the Electric Power Development Co., which is 72.4 percent owned by the government and 27.6 percent by the industry, in Oma Town, Aomori Prefecture, northern Japan.

The company is beginning fishing compensation talks with local fishermen's cooperative to enable it to start construction of the plant in April 1989, officials of the agency of Natural Resources and Energy said. The Oma Nuclear Plant, which will be Japan's first heavy water reactor, is planned to start operation in March 1995.

Total construction costs of the 606,000-kilowatt plant are estimated at 396 billion yen at fiscal 1984 prices, the officials said.

The ATR plant will use a mixture of plutonium--left over in reprocessing used fuel of light water reactors--and uranium.

Japan plans to develop a fast breeder reactor (FBR)--which produces more fuel than consumed--by 2010 for full-scale use of plutonium.

CSO: 5100/4524

PAPUA NEW GUINEA

FRENCH TESTS TO CONTINUE AT MURUROA

Port Moresby PAPUA NEW GUINEA POST COURIER in English 9 May 85 p 14

[Text]

France will not end nuclear testing on Mururoa Atoll in the South Pacific for a long time yet.

The country's ambassador to PNG, Mr Jean-Michel Dasque, made this clear on Tuesday night at a UPNO panel discussion on the Nuclear Free Pacific issue.

Mururoa was French territory and tests were necessary for French security, he said.

The US Ambassador, Mr Gardner, said his government favored a nuclear-free Pacific. But this should not disturb existing security arrangements to the detriment of regional and international security.

The Department of Foreign Affairs and Trade failed to send a senior representative to discuss PNG's stand on the issue.

Mr Dasque said: "The possession of a nuclear capacity is viewed by a huge majority of people as essential and vital to France."

"It assures our safety in the face of the continued build-up of Soviet strategic forces and middle range missiles."

Mururoa was chosen at a time when the political situation in the Pacific was different from now.

"There were only a few independent states and people were less concerned about nuclear problems," he said.

The atoll was isolated, 129 km from the nearest populated island, and the tests were less harmful.

On the question of a nuclear-free Pacific, Mr Dasque said he doubted whether the countries of the region would be able to stop ships carrying nuclear weapons sailing the ocean, because it was international waters.

The other speakers on the panel were the Australian High Commissioner, Mr Michael Wilson, the US Ambassador, Mr Paul Gardner, and the acting New Zealand High Commissioner, Mr Graeme Eskridge.

"It should not affect the existing rights of parties under international law to grant or deny other states transit privileges within internal waters, including port calls and overflights," he said.

Mr Gardner also said the US would not take any economic sanctions against New Zealand.

Mr Wilson also said the Australian Government believed in a nuclear free Pacific — which was

why it sponsored the motion now before the South Pacific Forum for a nuclear free zone.

Negotiation

Australia believed nuclear power could only be eliminated through negotiation and mutual agreement, not by forcing other countries.

The notable absence of a Papua New Guinea representative drew unfavorable remarks from the nearly 800 strong audience in the UPNO's main lecture theatre.

The chairman, Mrs Margaret Nakikus, said she did not know who was to represent the PNG Government.

"It is an unfortunate situation and I don't know whether to apologise on behalf of the Government," said Mrs Nakikus, wife of Primary Industry Minister, Mr Namallu.

Lawyer Mr Bernard Narakobi "condemned the physical absence of our government" and demanded an explanation as to why no representative was present at a time when the Prime Minister, Mr Siame, was talking about allowing US nuclear ships into PNG ports.

BULGARIA

LATE DELIVERY OF EQUIPMENT TO NUCLEAR POWER UNIT CRITICIZED

Sofia RABOTNICHESKO DELO in Bulgarian 17 Apr 85 pp 1,4

[Article: "Why are Deliveries Late?"]

[Text] A warning came to the editorial office from the Kozloduy nuclear power plant [AEK]. It reported that a number of factories around the country have not delivered the contracted equipment to the site. We are releasing this warning here, and on page 4 we talk about the results of our verification.

Construction of the fifth power block at the Kozloduy AEK has reached a decisive stage. According to the international agreement signed by the member nations of the CMEA, equipment worth 48 million leva should be delivered.

Our own machinebuilding industry has responsible tasks to carry out. The construction of the protective installation has been entirely assigned to our country. We will make a number of pumping units here, which will be used for assembling this type of reactor by other nations as well.

Over 100 large and small enterprises round the country are participating in the manufacture of local equipment. Eleven months prior to the start-up of operations for the fifth power block, in March 1986, equipment worth 28 million leva has been delivered to the construction site. Now we must ensure the delivery of the remaining 20 million worth in a short time.

A number of examples could be cited about the timely fulfillment of obligations assumed by the collectives. The following plants give good examples in this matter: the Mayak Plant in Novi Pazar, Struma in Pernik, Khristo Smirnenski in Sofia, Chervena Zvezda in Debeleets. These enterprises are strictly carrying out the orders they have accepted and are ready to help in case of urgent problems that may arise during construction.

The situation is not the same, however, with the plants of the Heavy Machine Building Economic Combine in Ruse. They have been criticized repeatedly for very late delivery of the requested equipment, as well as for poor quality. Unfortunately, the management and the collective of this leading combine have not taken any measures to eliminate the shortcomings. This creates nervousness and lack of rhythm in the course of work at the site. Several

dozen people are taken away from their direct obligations in order to eliminate defects found in the machine building constructions delivered by the plants in Ruse.

The Vaptsarov Plant in Pleven is also late in carrying out its obligations, according to the contract. It was supposed to have supplied six circulatory pumps just a year ago; this, however, has not been done, even by today. It is not possible to proceed with the installation without the electric pumps. The plant for transformers at the Elprom-Energo Combine in the capital has not provided the necessary transformers, which were supposed to be supplied at the end of last year.

Hermetic locks for the control room are supposed to arrive from the Heavy Machine Building Combine in Radomir; but their manufacture has been delayed. The three decarbonizing columns from Khimmash in Khaskovo are also late. The Comprehensive Deliveries Enterprise in Sofia has been amazingly slow; it is over a year late in supplying machines and installations for furnishing the cafeteria for the fifth reactor. Its carelessness and negligence has created a lot of problems because it has not provided sustenance conditions for the workers, whose number increases at the site every day.

There are enterprises which have not carried out their obligations either. There are problems in delivering cement, gas-resistant panels, slaked lime, and other materials from the Stroysnab organization in Pleven and Vratsa.

Thirty-nine enterprises, major suppliers of equipment and materials for the fifth block, signed a competition agreement, whose purpose it is to ensure the timely delivery of all things necessary for the power giant. Thus, now more than ever, it is necessary to comprehend that there is no turning back: there are only 11 months until the completion of the fifth power block and the beginning of experimental tests.

The problems in the production of complex metal construction in Ruse arise mainly from uncoordinated actions among the combine's plants on the one hand and between the combine and the nuclear power plant on the other.

Due to the lack of sufficient tool equipment, which was to have been created by the Plant for Tools, the machine installation plant at the combine in Ruse delayed the completion of the bulky metal constructions, vibration non-balanced sieves, and the biological protection equipment. The work of the machine builders in Ruse was made more difficult by the delivery, 2 months late, of special metals from the nuclear power plant. This forced the management of the Heavy Machine Building Combine to start the production of items with its own metals later.

These problems also multiply, on account of the changes in the construction and technological specifications of the products and the lack of highly trained workers.

In order to be able to comply with the original deadline, the combine's management made a new schedule for accelerated, high quality manufacture of

products destined for the Kozloduy nuclear power plant. The machine builders created disciplined organization in their labor; they have gone onto three shifts at work. Piece work payment is widespread. The work of the comprehensive brigade, under the leadership of Petko Manev, has been the most effective up to now.

The Vaptsarov Machine Building Plant at the Combine for Forge Press Machines and power Equipment has assumed the obligation of producing 27 pumps for the Kozloduy nuclear power plant. This is complex equipment which weighs about 30 tons, together with the engine. Many people have had doubts about the plant's capacities, but the experience accumulated and the skillfulness of the Pleven machine builders has led to overcoming the psychological barrier. Nine pumps have already been made and delivered.

The production of pumps is late indeed. The reasons for this can be found in the delayed supply of moldings and castings from the cooperative enterprises.

In order to overcome the lag, three shift operations have been introduced at the machine building plant. The schedules are designed in such a way that the manufacture of the rest of the pumps should be accomplished within the deadline so that there will be no interruption in the technological schedule for the installation of the plant's fifth power block. The piece work system for remunerating the machine builders has been introduced. The best workers are assigned to the sector where the pumps are being manufactured. After each shift, the daily assignment to be completed is analyzed and the plant's management evaluates the whole course of production on a daily basis. In each small collective there is organization, confidence, and ambition for worthy fulfillment of this responsible task. Two new OPV-2 pumps will be finished by the end of April.

The combine's and the plant's managers give their assurance that the equipment will be shipped to Kozloduy in accordance with the new schedules.

The Plant for Transformers at the Elprom-Energo Combine is obligated to deliver two transformers for the fifth and sixth blocks at the Kozloduy nuclear power plant. In connection with some difficulties last year, the deadline for their completion was set for the first trimester of this year. Up to now, however, work on them is still at the initial stage. What is the reason for this delay?

It was clear, even at the time when the contract was signed for the delivery of the transformers, that the tank, which weights over 30 tons, had to be welded in a new metal welding workshop now under construction. The load capacity of cranes in the old workshop is only 9 tons. The deadline for starting the new workshop in operation was not observed. After having been postponed from 30 June 1984 to 1 January 1985, and then to 29 March, the end of construction is finally in sight. The main executors, that is, Sofstroy State Economic Trust and the Production-Installation Administration in Sofia, however, are hardly aware of the consequences of this delay.

The necessary materials and raw materials have been delivered. Additional welders and fitters from other plants have been assigned here so that it will be possible to work in two or three shifts in the workshop, which has still not been officially inaugurated. A work schedule has been confirmed so that the first transformer can be ready by the end of May. This means in fact that the production deadlines should be cut in half. It is necessary to work with maximum exertion, with complete consciousness of the responsibility assumed. This is the way people should work at the nuclear plant.

[Editorial comment] The warning signal we received, as well as the verifications made at the plants supplying the equipment, showed that there are always reasons to be found for unmet obligations. They cannot help, however, to get the fifth power block started on time. We do not need justifications now, neither is hiding behind objective or subjective reasons helpful, but rather becoming aware of the great responsibility held by all the collectives that have obligations to the site. Our checks showed that there is understanding at three of the major suppliers of equipment. At this time, however, the question is not one of understanding, rather supporting this understanding with concrete deeds on the part of every person.

12334

CSO: 5100-3024

ARGENTINA

ALFONSIN SPEAKS AT CNEA ANNIVERSARY EVENT

PY312155 Buenos Aires Domestic Service in Spanish 1545 GMT 31 May 85

[Speech to nation by President Raul Alfonsin in San Carlos de Bariloche at the Bariloche Atomic Center on the occasion of the 35th anniversary of the founding of the National Commission for Atomic Energy--live]

[Excerpts] Ladies and gentlemen: We have called on all Argentines to work hard within the framework of freedom. If there is one human endeavor that can be an excellent example of freedom then it is science because it is conceived by free men of the world.

In addition to its intrinsic values, however, the ethics of effort we have proposed to the nation also call for the mobilization of all the resources that the country has available so that we may overcome the present situation, which is perhaps the most serious crisis that modern Argentina has ever confronted. There is scarcely any national sector that has not experienced the effects of this crisis, and unfortunately we are quite certain that scientific and technical activities have been harshly repressed by adversity.

In the 18 months since the constitutional authorities assumed power, we have seen the damage that has been done in all fields, and it is of course natural for some to be discouraged by the enormous difficulties we are confronting.

We know now that the final reconstruction of the country will not be achieved suddenly or through the magic of some visionary. This is why we have decided to take up the challenge by trying to resolve the political, social, cultural, and economic problems one by one, without any grandiose gestures and without creating false optimism.

During the 18 months I have been president of the nation, I have seen sufficient evidence to state that the nation has the strength, the will, and the necessary character to resolve these problems.

It is the main concern of the government to find proper solutions to the great problems we are confronting in the socioeconomic sector and we believe that the scientific-technological community can develop a plan that will help us to overcome the present limitations we are confronting. But the possible success of this challenge, which must be confronted under adverse national and international conditions, does not solely depend on the present capacity and potential of the scientific and technological sectors but mainly on the way in which the technological effort is handled and the emphasis it is given.

So that science and technology can contribute to achieving the goals established by the government, it will be necessary to overcome former disagreements between economic and social development policies and technical-scientific policies, as well as contradictions between basic science, applied science, and technological development.

The basic scientific policy aims at safeguarding, in the long run, the growth and vitality of the national scientific infrastructure, while the technological policy mainly aims at achieving an independent decisionmaking capacity regarding technological options, no matter how complex, and at having the capacity to generate and transfer technology adapted to the needs and interests of the nation.

It is in this regard that we intend to promote the consolidation of a tradition to achieve technological development in the productive sector at both the government and private level. This must be understood in a wide sense of the word, including adaptations, improvements, and adequate use of the technological resources we have available.

Technological innovation is another important factor that must be considered in addition to the classical factors such as capital, work, and resources. Moreover, it has become an explicit objective that must be achieved through the coordinated action of the government, the scientific-technological infrastructure, and the productive structure.

We are gathered here today to commemorate the national day of nuclear energy and the 35th anniversary of the organization that is responsible for fulfilling the national nuclear policy. I am very pleased to participate in this ceremony at the Bariloche Atomic Center and the Balteiro Institute, which is also commemorating its 30th anniversary.

The nation knows the patient and fruitful effort that the CNEA scientists, professionals, and technicians have carried out to promote the technological development of our country in the nuclear sector. This development has been possible particularly because of the institution's perseverance in developing our human resources, which is a basic policy of the nuclear sector, by supporting and complementing the training by our universities.

This prestigious Balteiro Institute, which was established in 1955 through an agreement with the Cuyo National University, has successfully carried out studies in nuclear physics and engineering. The work teams made up of professors and students have not merely limited themselves to acquiring and transferring scientific knowledge, but also to acting in keeping with respect for the moral and ethical values of man, and in so doing they have reasserted their cultural background.

The presence here of the chairmen of nuclear energy organizations of the Americas is symbolic of our regional integration and a reassertion of the peaceful tradition of our continent. With their presence here, the chairmen of the nuclear medical societies, the members of the Latin American Nuclear Biology and Nuclear Medical Association, are expressing that those scientists who make up these institutes have decided to increase regional cooperation in everything pertaining to the health of nations, thus seeking through science and technology the solution of serious problems that have thwarted the development efforts of these nations.

We also reassert our decision that nuclear medicine and biochemistry will be used as techniques to improve the health of Argentines, and that nuclear radiation will be used in the industrial sector to improve agricultural production and industrial processes. Scientific innovations, technological developments, and the promotion of a high quality industry will also constitute a basic aspect of our support program for the Argentine nuclear policy.

Moreover, this ceremony reasserts other objectives that the government has previously noted, such as the regional development of the interior of the country through the transferral of technology, as seen in the agreement signed today between the CNEA and the Province of Rio Negro, and the manufacturing of industrial components that will meet national needs and that will increase our export capacity. These are basic guidelines to be followed by the national scientific and technological sector.

Moreover, we are also reasserting the government's will to continue developing the Argentine nuclear plan in keeping with the pace and manner imposed by present circumstances. Nevertheless, we are clearly aware that today's difficulties should not undermine our future possibilities since this would mean that we have deviated from our objectives.

The use of nuclear energy clearly falls within the moral and political principles on which the government bases its actions. On 28 January, we signed the New Delhi declaration which is a categorical (?rejection) of the use of nuclear energy for nonpeaceful purposes. We want to reassert at this time that our will to develop nuclear energy for peaceful purposes is part of our government program.

We Argentines need to use and develop a vast territory and many times we have to do this under extreme difficulties and adverse conditions. But this urgent task can only be achieved through the use of nuclear energy.

CSO: 5100/2113

ARGENTINA

BRIEFS

RESEARCH REACTOR FOR ALGERIA--Buenos Aires, 27 May (TELAM)--The Argentine Foreign Ministry has announced that an agreement has been reached with the Democratic and Popular Republic of Algeria to construct in that country a research and training reactor like the RA-6, similar to the one in the San Carlos de Bariloche Atomic Center. This was reported as the Algerian New Energy Commission concluded its 1-week visit to our country and returned home. [Text] [Buenos Aires TELAM in Spanish 0000 GMT 27 May 85]

FRG NUCLEAR COOPERATION DENIED--The Foreign Relations and Worship Ministry denies the report carried in a newspaper today that the FRG has supplied Argentina technology for the production of plutonium. The National Atomic Energy Commission is building a pilot plant for the reprocessing of irradiated fuel with the intention of carrying forward a program to expand the energy capacity of Argentina's uranium resources utilized in the nuclear-powered plants. This is one of the possible options to recycle spent fuel and consequently, expand the country's uranium reserves. It should also be noted that the pilot plant, which is the first stage in this program, is not yet in operation. This national technological development is being carried out without any foreign assistance. Furthermore, the Foreign Relations and Worship Ministry reiterates once more that the entire Argentine nuclear program has an exclusively peaceful character. [Text] [Buenos Aires NOTICIAS ARGENTINAS in Spanish 2303 GMT 29 May 85]

CSO: 5100/2111

ECUADOR

BRIEFS

ECUADOR'S VIEW ON DISARMAMENT--Mexico City, 29 May (NOTIMEX)--Ecuador has called for the participation of denuclearized states in the disarmament negotiations currently underway between the United States and the Soviet Union. On the second day of the interparliamentary conventional weapons disarmament symposium, Baca Carbo, the Ecuadorean representative at this event, stressed that the denuclearized countries must exercise their right to participate in arms negotiations that affect them also. Further on, he indicated that the arms race increases the developing countries' annual expenses, making it impossible for them to pay the foreign debts that burden them. Baca Carbo denied that parliamentarians can influence their respective governments with regards to the conventional arms race, stressing that only growing awareness and a true desire to carry out regional actions in this area can curb the arms race. [Text] [Mexico City NOTIMEX in Spanish 1959 GMT 29 May 85 FL]

CSO: 5100/2120

INDIA

FAST BREEDER REACTION BEGINS NEW PHASE OF N-POWER

Madras THE HINDU in English 4 May 85 p 8

[Article by S. Parthasarathy]

[Text]

THE Fast Breeder Test Reactor (FBTR) at the Reactor Research Centre (FRC), Kalpakkam, which is about to be commissioned will be a feather in the cap of India's nuclear scientists, concede critics who once complained of slippages, cost escalations and operational problems in the first phase of the nation's nuclear power programme. The critics assume that the FBTR will smoothly lead to the much bigger programme of nuclear power development based on fast breeder. India is becoming one of the very few countries to build and commission a fast reactor, albeit a test reactor, by indigenous effort.

The first phase of Indian nuclear power development which started with the setting up of thermal nuclear reactors generating power from natural uranium has now led to the second. Of course, the first phase 235 MWe class of reactors will continue to be built until the uranium reserves run out. In the second phase the plutonium produced from the thermal reactors is to be used in the breeder reactor to convert the depleted uranium into plutonium and to convert thorium into a fissionable uranium isotope. The crucial first step in this phase is the creation of the FRC, laid out on a 100-hectare area in Kalpakkam.

Indian design

A major project of the FRC directed by Mr. C. V. Sunderam is the FBTR. This is a liquid sodium cooled, plutonium fuelled loop-type fast reactor (42.5 MWt — 15 MWe), smaller than the French fast reactor Repose. The fuel is of Indian design, based on plutonium-uranium carbide, used for the first time in the world and having attractive possibilities for the future in the form of sintered pellets encapsulated in thin-walled stainless steel tubes.

Why breeders at considerable expense? Specialists recognise that India cannot rely on thermal reactors alone for a long time as the energy potential in uranium deposits exploitable by these thermal reactors is limited. With the present thermal reactors it will

not be possible to use more than a small fraction of the uranium resources. This implies that the great bulk of the fertile material in uranium will be left unused. The fast breeder reactor opens up vistas for the utilisation of the energy potential of the far more abundant but non-fissionable U 238 isotope in natural uranium and for utilisation of thorium in the third and final phase.

In the pressurised heavy water reactor (PHWR), the plutonium generated will be around 0.8 kg. for every kg. of uranium consumed. In a large fast breeder reactor (FBR), fresh plutonium produced from uranium 238 isotope will be about 1.2 kg. for every kg. of plutonium consumed, and the surplus will enable the setting up of additional FBRs. It is clear that without a certain installed capacity under the first phase, the second phase fast reactors cannot be sustained, as the constraint will be the availability of fissionable material, plutonium. The Atomic Energy authorities are planning to operate ten million KW of installed capacity in terms of the PHWR for a period of 60 years and produce each year 3,250 kg. of fissile plutonium. Uranium resources currently assessed are estimated to be just sufficient to sustain a thermal reactor programme of this magnitude.

The present thinking is in favour of locating four identical units at one site so that the infrastructure is optimally used and the target 10 million KW capacity is reached quickly.

India has not been endowed with large reserves of uranium. The deposits are small and the grade is also poor. But because of low fuelling costs for the PHWR even lean ores as low as 0.33 per cent can be mined for an acceptable cost. According to geologists, the uranium reserves going down to 0.03 per cent concentration are around 90,000 tonnes, equivalent to 225 billion tonnes of coal.

Thorium reserves

On the other hand, India is well placed with proven reserves of thorium — 3,43,000

tonnes — while indicated reserves would take the figure to 5,00,000 tonnes, equivalent to 1,250 billion tonnes of coal. Because the fast breeder system improves the energy utilisation of natural uranium by a factor of about 60 and because this second phase would be followed by the third phase of thorium systems, the country's nuclear power development programme has been conceived in three phases, explained Mr. Sundaram.

The Director of the RRC points out how the FBs function differently from the PHWRs. The fission chain reaction in fast reactors is maintained with fast neutrons in the absence of a moderator and this requires a much higher concentration of fissile material; this and the smaller core volume contribute to a higher power density in the core, and hence for efficient extraction of heat, a liquid metal like sodium is used as advanced heat transfer medium. The reactor configuration itself offers a much better neutron economy with the result that it is possible to produce more fresh fuel during the fast reactor operation. This "breeding" is the justification for the development of this sophisticated technology.

The engineers at the RRC, created as a second major R and D establishment, after BARC in Trombay for the indigenous development of the sophisticated fast breeder technology, are sure that in this second phase also they will be as successful as in the first. The situation today is that comprehensive capabilities have been created over a wide range of technology under the first phase so that it is possible to build 235 MW PHWRs as a national effort. It must be noted that PHWR has attained a state of maturity in indigenisation. This has given the Department of Atomic Energy confidence to go ahead with the 10,000 MW plan.

Commercial scale

With the FBTR coming to a culmination, where does the country go from the test reactor? "Obviously, to a new series of 500 MW fast breeders," remarked Mr. N. L. Char, who was till recently in charge of all the engineering projects at the RRC. The commissioning of the FBTR is being followed up with the design of a 500 MW fast breeder reactor to serve as a prototype or head of the next series as part of the objective of introduction of fast breeders on a commercial scale by the turn of the century.

Big stake

The size of the proposed prototype 500 MW fast breeder reactor represents a big jump from that of the small test reactor — FBTR. Along with France and Japan, India is among the few countries which have a major interest and a big stake in the development of the fast breeder reactor.

Engineers assert that the breeder will be completely competitive with the coal fired station. What is relevant is the French experience as the Indian experience is confined to the pressured heavy water reactor. The

cost per kw-hr for the prototype liquid sodium-cooled Superphoenix (of France) is estimated to be the same as for a coal fired station. As coal and uranium get depleted, breeder reactors will be the most economic source of power, they point out.

It must be admitted that the impact sought to be made on the energy problem by nuclear power at the time of its introduction was much greater than what is now anticipated. The time horizon when fast breeders will make a significant contribution has receded but the eventual need for these reactors has not become any the less, says Mr. Sundaram.

Fast neutrons

From the early days of nuclear energy in India, fast neutrons have been regarded as the key to optimum utilisation of nuclear energy resources. But the progress presents a mixed picture in other countries. The doubling time is now much longer than had been hoped for. It is now thought that fast reactors using mixed oxide fuel are likely to have a doubling time in the range of 15-20 years against a doubling time of 10 years for a fuel of mixed carbide. It should be noted that while in the long term, thorium offers a secure energy base, at present a technology to exploit this potential does not exist. However, the engineers point out, the route is reasonably clear and involves sequential stages requiring introduction of new nuclear technologies at each of these stages. They are confident of developing the requisite technology.

How distant and how competitive will be the fusion energy? Specialists say that the quantity of energy produced under the fusion system will be limited by the amount of lithium available, as lithium gets easily transformed into tritium. According to them, the total energy from the fusion reactor will be only comparable to the potential of fast breeder reactors using uranium and thorium.

Usable energy forms

Specialists express optimism that there will be no shortage of primary power at any time in the future with the sun continuing to pour onto the earth many thousand times more energy than is needed by its inhabitants, but the problem, as in the past, is going to be conversion of these boundless resources into mechanical work or other usable forms of energy. The history of energy has really been the history of conversion of the primary energy. They are not sure that all the exotic alternatives being discussed like solar, wind and tidal will be appropriate for bulk electricity generation on a commercial scale. The foreseeable future, according to them, belongs to the fast breeder (including the thorium system) fission and fusion. The Atomic Energy scientists are certain that the country is going on the right path.

INDIA

COMMENTARY DISCUSSES NUCLEAR POLICY, PAKISTAN

BK101446 Delhi General Overseas Service in English 1330 GMT 10 May 85

[Political commentator S. C. Bhutt's commentary]

[Text] India has been among a few nations in the world which affirmed long ago she would not go nuclear. This was despite great strides taken by her in the sphere of peaceful uses of nuclear energy. Long ago, the Indian Government said it would use the nation's nuclear facilities only for peaceful purposes--power generation, in which India has made great progress, agriculture, medicine and health. This attitude arose from India's freedom struggle which laid great emphasis on universal peace and the commitment of the leaders like Nehru to using modern science, including its most wonderful gift, the energy of the atom, to the betterment of life. India has, therefore, foregone nuclear weapons, although she is virtually a member of the nuclear club by the fact of her research and industrial capacity in the field.

In spite of developments in her neighborhood, especially the frantic efforts in Pakistan to acquire a nuclear weapons capacity, India has so far not thought of exercising her nuclear option. On the contrary, soon after Mr Rajiv Gandhi formed his government after the national elections 4 months ago, India was host to a 6-nation conference in New Delhi. Attended by Tanzania, Sweden, Greece, Mexico, Argentina, and the host, India, the conference adopted the Delhi declaration for an end to the nuclear race, for keeping outer space free of nuclear missiles, and for peaceful uses of nuclear energy.

But the developments in Pakistan continue to cause concern in this country. There are reasons to believe that Pakistan has acquired nuclear capability and only the fear that the United States may stop all economic and military aid if she exploded a nuclear weapon keeps her from going openly nuclear. This fear was powerfully voiced in Lok Sabha--the lower house of parliament--in New Delhi recently. The occasion was the debate in the house on the annual budget of the Defense Ministry. Several senior members from both sides of the house called for the exercise of the nuclear option by India. The defense minister, Mr Narasimha Rao, significantly said there should be a national debate on the issue whether India should go nuclear or not now that Pakistan has already acquired nuclear capability or is on the verge

of doing it. The issue also came up at a meeting of the All-India Congress-I committee, the policymaking body of the ruling party, which met a few days ago in the capital. The prime minister, who is also the Congress-I president, voiced the members' fear that a nuclear Pakistan posed a serious threat to India. The Pakistani nuclear bomb, everyone in India recognizes, can only be aimed at India. Mr Rajiv Gandhi said the country will have to take steps [?] guard herself against this new danger. It was officially denied that the prime minister had meant to say that India would now exercise her nuclear options. That clarified the position and helped to put the issue in perspective.

It is not only India that has been concerned over the growing nuclear capability of Islamabad, although as the next-door neighbor, India should be more exercised than any other nation. The Americans themselves have shown great anxiety over the issue, although it suits the Reagan administration at the moment to close its eyes to the threat so that the U.S. aid program --both military and economic--is not jeopardized. The law is conveniently forgotten so that American sophisticated weapons systems are introduced in Pakistan. Last year an American senator had sought to bring the issue to a head, but he was not successful, as the Reagan administration used the familiar arm-twisting tactic to get the aid bill through the Congress without the inconvenient nuclear issue being raised.

CSO: 5100/4755

INDIA

NUCLEAR WEAPONS CAPABILITY OPPOSED

BK211736 Delhi INDIAN EXPRESS in English 15 May 85 p 6

[Editorial: "Don't Go Nuclear"]

[Text] A debate on whether or not India should go in for nuclear weapons has almost become a seasonal feature with the so-called "bomb-lobby" canvassing this from time to time. Revival of the debate at this time is therefore not unusual. But it is noteworthy that the issue has been raised again in the context of alarmist statements by the Government at the highest levels about the imminence of Pakistan's acquisition of nuclear weapons capability, with alleged U.S. connivance, and the grim consequences it poses for India. The latest annual report of the Defence Ministry made specific reference to this "threat" in the context of the deteriorating security environment in the region which must be taken into account in any consideration of national threat perceptions. The Defence Minister sought "guidance" from Members of Parliament on how the country should react to this (new) situation. The Prime Minister has made several references to this in a series of statements and interviews. Mr Gandhi told the AJCC-I earlier this month that the acquisition of high-technology arms by Pakistan and its progress towards nuclear capability were likely to upset the military balance in the sub-continent. His remark that this would call for appropriate action by India was subsequently clarified as not to imply reconsideration of the country's avowed policy of self-denial in the matter of acquiring weapons.

While this is to be welcomed, conflicting statements and constant iteration of the perceived Pakistani nuclear threat, despite strenuous disclaimers from Islamabad, have introduced an element of ambiguity into India's position which it would be wise to clear. There are some who advocate nuclear ambiguity as a policy as it is better to keep the world guessing than remain nuclear-naked. Such nuclearisation-on-the-cheap could be a double-edged weapon as India could incur all the costs and odium of having gone nuclear without this actually being the case. But there is the other school, well represented in a seminar held in Delhi over the weekend, that holds that with nuclear power and nuclear proliferation a manifest reality, it would be suicidal for India to abjure nuclear weapons and thus subject itself to nuclear blackmail. On the other hand, it is argued, nuclearisation of the sub-continent will not jeopardise efforts at rapprochement with Pakistan presumably within a framework of a non-nuclear balance of terror.

The argument is unconvincing for two reasons. First, it does not count the cost. The notion that going nuclear is less expensive than the cost of a modern military aircraft is extraordinarily simplistic. Going nuclear does not mean letting (words indistinct) on the Pokhran model or the possession of a few bombs. The compulsion would be to develop the arsenal and match the counter-measures taken by the "enemy." As the sophistication of the arsenal and the delivery system grows, India's nuclear capability would threaten other nuclear and non-nuclear powers, thus setting in motion a new set of military and diplomatic forces the consequences of which would sooner or later come home to roost. If this were not enough, there would be compulsive need to augment conventional arms, thus triggering a further round of competitive non-nuclear defence spending as well. Once on this twin escalator, it would not be easy to step off. Rather than having bought security, the country will have bought insecurity at a higher level of military sophistication and expenditure. What this does to national development, all the nice calculations about the relatively low ratio of India's defence outlay to GNP notwithstanding, can be imagined. Of course one can always debit every internal problem to that ubiquitous foreign hand. But the fact is that external glory (or security) cannot prevent internal collapse if the country forgets its true priorities. The enemy is within.

Secondly, the bomb-in-the-region argument ignores the fact that India has lived with a China-bomb for 20 years. This is remembered when it comes to rebutting the plea for a South Asian nuclear-free zone, it is pointed out that India has to contend with Pakistan's "ally," China, which has nuclear weapons. If the nuclear threat is feared from Pakistan then there is also the option to explore the suggestion reportedly made by Pakistan: joint inspection of each other's nuclear facility and a mutual agreement to eschew nuclear weapons. Nuclear inspections may not be easy and may require understanding on a wider front. But this should not therefore be dismissed as impractical.

CSO: 5100/4759

INDIA

ENRICHED URANIUM FROM FRANCE ARRIVES

HK250816 Hong Kong AFP in English 0802 GMT 25 May 85

[Text] New Delhi, May 25 (AFP) — A consignment of about 10 tonnes of enriched uranium for the Tarapur nuclear power station near Bombay has arrived in India from France, the UNITED NEWS OF INDIA (UNI) agency reported today.

UNI said the fuel was brought in six special high-pressure cylinders covered with protective packing. Each cylinder contained 1,600 kilogrammes (3,520 pounds) of fuel.

The consignment was flown into the southern city of Hyderabad yesterday, UNI said, quoting sources in Air India, which carried the consignment.

The fuel, after off-loading, was taken in trucks amidst tight security to the nuclear fuel complex near Hyderabad, where the fuel is to be processed and sent to Tarapur, the report said.

An Indo-French agreement on the supply of nuclear fuel was reached in November 1982.

The agreement provides for fuel to be supplied throughout the life of the Tarapur plant, and for the exchange of unclassified information relating to research and development, including advanced technology for the use of plutonium.

The agreement marked the beginning of closer ties between the two countries in nuclear energy and gave a new lease of life to the fuel-starved Tarapur plant.

The two reactors at the Tarapur plant were built by the General Electric Company of the United States under an Indo-U.S. agreement signed in 1963, which committed the United States to providing enriched uranium fuel until 1993.

But the fuel supplies became erratic after an Indian nuclear weapon test in 1974.

Supplies dried up altogether in 1981 as India refused to agree to safeguards demanded by the United States.

INDIA

BRIEFS

INDO-SOVIET NUCLEAR COOPERATION--The prime minister has described his 6-day visit to the Soviet Union as very successful. He said his talks with Mr Gorbachev and other leaders were extremely fruitful. Talking to newsmen on his arrival at Delhi airport this morning from Frunze, the capital of Kirghizia, Mr Rajiv Gandhi said the two agreements signed during his visit to Moscow envisage cooperation in a very wide spectrum, and will help both the countries in their economic development. Asked about the Soviet offer of cooperation in India's nuclear program, Mr Gandhi said there are certain problems regarding safeguards under the Soviet law, and efforts are being made to sort these out. [Excerpts] [Delhi Domestic Service in English 1230 GMT 26 May 85 BK]

CSO: 5100/4759

PAKISTAN

ATOMIC ENERGY CHIEF EXPRESSES VIEWS ON NPT

Islamabad THE MUSLIM in English 4 May 85 p 1

[Text]

ISLAMABAD, May. 3: The Non-Proliferation Treaty (NPT) launched in 1970 has not achieved the desired objectives and is adversely affecting the economies of energy-deficient developing countries.

This was stated by the Chairman of the Pakistan Atomic Energy Commission, Dr. Munir Ahmad Khan, at the annual meeting of the Japan Atomic Industrial Forum held recently in Tokyo. He said the main purpose of the NPT was to promote peaceful uses of atomic energy and to reduce the risk of nuclear war. Unhappily, he noted that it had not been successful in accomplishing either.

Dr. Munir Ahmad participated as a panelist in a session devoted to 'new approaches to promotion of peaceful uses of nuclear energy and the role of NPT'. Other members of the panel, chaired by Prof. K. Oshima of Tokyo University, were Jean Bernard Ouvrieu (France), Mamikuro Nishibori (Japan), Pil-soon Han (South Korea) and James L. Malone (USA).

Dr. Munir Ahmad Khan said even the very sponsors of NPT had not been faithful to it. Nuclear armaments, he said had been conti-

nuously upgraded in quality, and quantity in clear defiance of the provisions of the treaty. There had been little sharing or transfer of nuclear technology as envisaged in the treaty to the disappointment of NPT signatories of the Third World. Nor had the security of non-nuclear weapon states signatories been enhanced, and no meaningful guarantees had been provided against threats of nuclear attack. Therefore, a number of countries, he said, view the treaty as discriminatory in principle and unfairly implemented in practice.

The Chairman of the Pakistan Atomic Energy Commission emphasised the urgent need of finding some common ground to work together for worldwide development of peaceful applications of atomic energy.

Dr. Munir said the energy sector is an important indicator of the overall health of the economy. Deficiencies in this sector, necessitating energy imports, are responsible for a major part of the 900 dollar billion debt burden of the less developed countries. In fact, he said for many oil importing developing countries the current account deficit had been about the same as their oil import bill for the past several years. If these countries continue to be starved of energy, their debt would continue to

increase while their ability to service and repay existing debts would decrease. The only way to avert the resulting crisis in international finance, he said, is to help the developing countries harness all possible energy sources for their economic development. Embargoes on energy technologies are in the interest of neither developing nor developed countries.

Despite these manifest economic realities, the transfer of technology in the nuclear power field is severely constrained by political considerations. Leaving aside the power sector, there is very limited trade or transfer even in other areas such as agriculture, medicine and industry. -APP

CSO: 5100/4761

PAKISTAN

COMMENTARY VIEWS 'LUXURY' OF NUCLEAR WEAPONS

BK180710 Karachi Domestic Service in English 1715 GMT 17 May 85

[Commentary by A.M.K. Maswan]

[Text]The Indian accusation against Pakistan's supposed growth of military power has come up again and again with (?utmost) regularity in spite of Islamabad's repeated assertions to the contrary. It has become a sort of obsession with some of the Indian officials and leaders which cannot even stand scrutiny of historical chronology. India had already been busy purchasing long-range Jaguar missiles from Britain and other sophisticated offensive weapons when Pakistan came face-to-face with the new danger on its western border when foreign troops invaded Afghanistan and rolled up the age-old buffer between the Soviet Union and South Asia. It was in the face of this danger that Pakistan first thought of strengthening its military and had to look the other way for the purpose. While the United States was fully appreciative of the new danger in the area, it did not agree to pay greater interest in Pakistan's strategic requirements until 1981, when it agreed to do so in a limited way.

Even the agreement entered into that year had been time and again beset with obstructive diplomatic actions spearheaded by the Indians and the Israeli lobby in the United States. Much of this opposition has been on the totally trumped up assertions with respect to Pakistan's so-called nuclear program. Although India had exploded an atomic device as far back as 1974, Pakistan had never been close to such a prospect. Nor could it indulge in that luxury because nuclear military technology is an expensive affair and Pakistan's economy is not strong enough to indulge in such a project. It is true that Pakistan was looking into the future with some dismay since the OPEC countries began jacking up the prices of the black gold to such an extent that Pakistan has had to utilize nearly half of her foreign exchange earnings in the import of oil. The progress and development which the country has to go through, especially because of its rapid rise in population, has also increased its energy and power requirements. Since the last year the country had to impose compulsory restrictions on the consumption of energy for all purposes. This has made the industry suffer greatly and is felt even in normal day to day living.

The situation would deteriorate further in the coming years. Since Pakistan has neither enough oil of its own nor coal with which to develop thermal production, Pakistan has to depend on

imports. It is sure to find an unbridgable gulf between energy supply and need. For this purpose alone, it has become necessary for Pakistan to look for nuclear energy, for which it has been striving for several years but only with partial success. It is now in a position to reprocess the fuel for use in energy needs, but not to set up its own cycle (?program). As the president of Pakistan explained to the press the other day, a nuclear reactor costs about \$1.5 billion, which is a large sum for a poor country like Pakistan. Even if it is in a position to use indigenously acquired technology for building up a reactor, the quality of the fuel reprocessed by it is in no way of that standard that it would have been used to make a nuclear bomb. Pakistan, to finish India's suspicions, has offered the agreement for mutual inspection of each other's nuclear installations following a pact not to develop any device to be used for military purposes, but India has refused this proposition. Then Pakistan offered to join the nonproliferation treaty if India does so. This has also been persistently rejected by New Delhi. Pakistan's slate so far as this side is concerned is clean and it is ready to agree to any proposal which is based on sovereign equality of the two countries.

This controversy aside, Pakistan is still pursuing its peace offensive, which includes a no-war pact and a friendship treaty suggested by India. Even while the propositions are in the [word indistinct] Indian leaders, a section of its officials and the press come up again and again with accusations of too many arms, though the only arms which Pakistan possesses are those which were agreed to in 1981. It appears that India does not want Pakistan to look after its defense in any sector which is contrary to its right as a sovereign nation and the commitment of the people who achieved freedom after giving tremendous sacrifices for its independence.

PAKISTAN

SMOOTH FLOW OF ESSENTIAL SUPPLIES FOR PLANTS URGED

Karachi DAWN in English 11 May 85 p 10

[Text]

KARACHI, May 10: Chairman, Pakistan Atomic Energy Commission (PAEC), Mr Munir Ahmed Khan, has said in order to advance international nuclear cooperation rule of law should prevail and international agreements should not be unilaterally abrogated, nor made subject to subsequent changes in national legislation.

"In order to make safeguards irrevocable, the supply of essential equipment and material should also be guaranteed for the life time of the plants and projects under safeguards. Nuclear plants are too expensive to risk interruption of essential supplies," he said in a paper presented at the 18th annual meeting of Japan Atomic Industrial Forum (JAIF) in Tokyo recently.

The PAEC chief said advanced nuclear states, which are signatories to nuclear non-proliferation treaty (NPT) should honour the pledge of technology sharing in a non-discriminatory manner, as required by Article 4 and 5.

The perception of NPT non-

signatories, whether developed or developing, ought to be appreciated and understood. Adherence to NPT need not be made a pre-requisite to nuclear cooperation. Appropriate IAEA safeguards should be accepted by supplier states as effective guarantees against proliferation.

Mr Munir said development of small and medium power reactors should be sponsored by IAEA and international financing agencies such as the World Bank in order to facilitate use of nuclear power by countries with small grids.

International support should be mobilised for promoting regional training programmes and technology transfer in the fields of nuclear power and application of nuclear techniques in agriculture, medicine, etc.

Mr Munir stressed the urgent need to have sincere and serious dialogue between suppliers and recipient states with a view to finding common ground for striving towards the goal of universal non-proliferation without impeding the development of peaceful applications of atomic energy.—PPI

CSO: 5100/4758

PAKISTAN

BRIEFS

URANIUM EXPLORATION IN SIND--Karachi (PPA)--The Pakistan Atomic Energy Commission has begun a search for uranium ore in the Tharparkar and Chilistan areas of Sind Province. The geological conditions in this vast desert area are very similar to parts of Australia and Namibia where uranium ore has been found very near the surface. Initial experiments have shown that the well water in the above-mentioned regions in Sind show traces of uranium and radioactivity. [Text] [Lahore JANG in Urdu 18 May 85 p 8 GF]

CSO: 5100/4760

NIGERIA

MINISTER: URANIUM NOT YET FOUND IN ECONOMIC QUANTITIES

Kaduna NEW NIGERIAN in English 22 Apr 85 pp 1, 3

[Text]

ALHAJI Rilwanu Lukman, Minister of Mines, Power and Steel, said in Lagos that the Nigerian Uranium Company was yet to find uranium deposits in economic quantities.

Reviewing the activities of parastatals under the ministry, the minister told newsmen that drilling activities had continued to show "surface mineralisation" in different areas.

He said that Nigeria had so far contributed 2.5 million dollars (about 2 million Naira) to the Republic of Guinea's Uranium Exploration Company in which Nigeria holds 25 per cent equity shares. It also holds 16 per cent in the Afosta Est-Madawela Uranium Project in the Republic of Niger, according to Alhaji Rilwanu.

The minister said that although partial exploration work had been carried out at the Afosta area and a reserve of 5,000 tonnes of uranium found, further work had been suspended because of the military installations put up in the area by the Niger Government.

"Talks are currently going on between the two countries on the possible re-activation of exploration work," he added.

Alhaji Rilwanu said that the Nigeria Mining Corporation produced 72.43 tonnes of cassiterite last year, while the

Ririwai Mines Limited, jointly owned by the corporation and the Gold and Base Metal Limited would produce 900 tonnes of tin and zinc ores per day when the 30 million Naira underground mine project is fully operational.

He said that feasibility studies had indicated about 567,000 grammes of gold at the Ilesha (Itagumodi) area and some substantial quantities in the north-western parts of the country.

"Concentrated reserve of over 700,000 tonnes of lead-zinc has been proved at Abakaliki and efforts are being made to commence mining", he said, adding, that about 730,000 tonnes of barytes had been proved.

On the steel sector, Alhaji Rilwanu said that the government would continue to accelerate the completion of the 3.5 billion Naira Ajaokuta Steel Project which was recently renegotiated to be ready in 1989 instead of 1986 because of the non-completion of the civil works.

He said that the activities of the steel rolling mills at Osoybo, Jos and Katsina were being monitored to ensure efficient operations and public accountability.

The government collected 1 million Naira last year as royalties for granite/stone quarrying, he added.

SOUTH AFRICA

PRODUCTION OF ENRICHED URANIUM PLANNED

Johannesburg MINING WORLD in English Apr 85 p 7

[Text]

The erection of a uranium enrichment plant at Valindaba to provide for South Africa's enriched uranium needs is progressing according to programme and the plant should come into operation in approximately two years, says Dr J.W.L. de Villiers, executive chairman of the Atomic Energy Corporation of South Africa. He commented on news reports referring to the enrichment of uranium at Valindaba and international fuel purchases by ESCOM for the Koeberg nuclear power station.

Dr De Villiers said that the then Minister of Mines announced on 13 February 1978 that a project would be initiated for the commercial pro-

duction of enriched uranium in view of the progress made with the pilot plant and that the envisaged plant would be able to provide for the country's needs.

"The erection of such a production plant is obviously a complex venture and a definite commissioning date could not be specified. However, as progress was made with the project, it became clear that the production of enriched uranium for nuclear power production would become a reality in the second half of the eighties. The erection of the plant is progressing according to plan and it should be commissioned in approximately two year's time," Dr De Villiers said.

The final cost of the project will only be known once the plant is in production. It has been designed for a production of 300 tswu per year, enough to supply South Africa's domestic demand. The production plant at Valindaba will utilise locally produced feed material.

As the Koeberg nuclear power station commenced with electricity production in 1984, it was necessary to negotiate the supply of fuel with international suppliers for the period when locally enriched uranium would not be available, Dr De Villiers said. As a result ESCOM will have to rely on overseas suppliers of enriched uranium until such time as the Valindaba plant could supply sufficient material.

USSR

U.S. AID ENCOURAGES PAKISTAN'S NUCLEAR AMBITIONS

LD121637 Moscow Domestic Service in Russian 1030 GMT 12 May 85

[Vladimir Beloshapko commentary]

[Text] According to a report from the Indian news agency UNI, the Pakistani ambassador to the United States has confirmed that the Pentagon will give the latest air-to-air missiles to the Pakistani Armed Force. They are destined for installation on F-16 fighter bombers. Here is a Mayak commentary by Vladimir Beloshapko:

[Beloshapko] General Ziaul Haq, in a frank outburst, once exclaimed that he will force the people of Pakistan to eat grass, but will acquire his own atomic bomb. Subsequent events have shown that these were not just words. Having driven the country into a blind alley of financial and economic problems at the cost of a catastrophic decline in people's living standards, Islamabad has come close to crossing the nuclear threshold. Tied by the obligations of the treaty on the non-proliferation of nuclear weapons and by internal legislation, the White House deals critically with Pakistan's nuclear plans, at least in words. Moreover, Washington states that it is taking measures to stop Islamabad from completing the military-nuclear program. These measures, it turns out, involve arming the Pakistani military to the teeth with the most up-to-date types of conventional weaponry. Then, they say, the need for creating a so-called Islamic atom bomb will disappear of its own accord. It is this very argument which is being used to justify an American-Pakistani military deal worth more than 3 billion [currency not specified], a deal within whose framework combat planes, tanks, missiles, artillery, and other lethal equipment come from across the ocean in large quantities.

Does this policy actually succeed in pacifying the Islamabad militarists? One gets the impression that it does not. In any case, the conventional weapons coming in from the United States in no way reflect the rate at which the Pakistani nuclear program is being implemented. Pakistan, in the view of experts, is nearer than ever before to testing nuclear weapons. More than that, with every new batch of U.S. weaponry, the Pakistani military regime demonstrates aggressive intentions more and more often toward neighboring Afghanistan and India.

One more noteworthy circumstance: As is known, the Pakistani Air Force has already obtained 25 F-16 combat planes and by the end of the year they will have 40. Incidentally, these planes are capable of carrying nuclear bombs. The question arises: If Washington is really against Pakistan having nuclear weapons, why provide Islamabad with the means of obtaining them? [sentence as heard]

In a word, the real facts negate the United States' expressed good intentions. In reality, the militarization of Pakistan encourages the nuclear ambitions of the ruling circles of that country, and the aforementioned statement by the Pakistani ambassador in the United States shows that Washington plans to continue following this vicious course.

CSO: 5100/6

FINLAND

SOVIET, SWEDISH DESIGNS FOR SMALL REACTOR STUDIED

Helsinki HELSINGIN SANOMAT in Finnish 27 Apr 85 p 30

[Article by Risto Valkeapaa: "Manufacturing Time Is Considered an Advantage of Small Nuclear Power Plants. 500-Megawatt Soviet Power Plant to Be Completed in 5.5. Years"]

[Text] Eventual construction of the fifth nuclear power plant is being narrowed down to two types of plants: a Soviet 500-megawatt pressurized water powerplant and a Swedish 710-megawatt boiling water power plant.

The advantage of these two plants, which are smaller than originally planned, is their short construction time. Studies by Imatran Voima [Imatra Power Co. Ltd] have indicated that the construction of a 500-megawatt Soviet plant takes five and a half years. However, obtaining the licenses required before beginning the construction adds a few years to the procurement time of an eventual new plant.

Officially, a Soviet 1,000-megawatt plant and a French 930-megawatt plant are still being considered. Price comparisons have also been made with a 1,060-megawatt Swedish plant. There is reasonably fresh information about it, since test runs are currently in process in the newest Swedish power plants.

In practise, the decision to choose one of the small power plants could mean that both Imatran Voima [IVO] and Teollisuuden Voima [Industrial Power Co. Ltd; TVO], which are cooperating in the development of the project, would each get a third unit to complement their existing plants.

IVO's third unit would, however, look quite different and be technically rather different from Loviisa 1 and 2. For example, the ice containment system incorporated in the present safety system cannot be considered any more. Therefore, the reactor building will be made for so called full pressure. At the existing plants of Loviisa, in case of an accident, the pressure is reduced by melting ice in the reactor building.

The third unit of TVO would be almost exactly like the two units now in operation.

Taking the Bull by the Horns

IVO's studies of both the 1,000-megawatt and the 500-megawatt plants are now so far advanced that the Soviets, who are unfamiliar with the difficult decision-

making process of the Finns, have already proceeded as far as releasing, through Tass, such detailed information as the manufacturing sites for the various parts of the plant.

In 1982 IVO and TVO started a joint project to study the procurement. On the basis of the proposal of TVO's board of directors, the project has now moved on to the stage in which the responsibilities are being defined more precisely. The goal is for these corporations to establish a company operating on a fifty-fifty basis and capable of starting the implementation of the project as soon as the additional local requirements have been met.

Surprisingly Short Construction Times

IVO's studies have indicated that the construction time will be about five and a half years if the Soviet 500-megawatt plant is chosen.

According to Anders Palmgren, director of IVO, the construction of a 1,000-megawatt plant takes about a year longer.

However, Palmgren speaks in favor of the 1,000-megawatt plant. Internationally, even that is not regarded a large power plant, and it is considered more economical in production costs than the 500-megawatt plant.

The Finnish calculations concerning the manufacturing schedules are considered quite realistic. On the Soviet plant site of Zaporozhie, for example, they boast that 1,000-megawatt plants can be produced at the rate of one unit every four years. The intention is to construct six 1,000-megawatt plants on that site.

One of the advantages of the plants supplied by Asea is that the construction volume is clearly smaller than that of the Soviet plants. Also, the construction time has proven to be relatively short. The 1,060-megawatt Oskarshamn 3 was built in 57 months or less than five years.

TVO 1 was being built from February 1974 to September 1978, and its second unit from summer 1975 to February 1980.

Asea reports that the company feels that their company is strongly involved in this Finnish project. The quoted plant is an improved version of TVO II at Olkiluoto.

Otherwise Still in the Picture

The alternatives that have been studied are the French 930-megawatt plant, which is represented in France by approximately twenty plants, and the Swedish 1,060-megawatt plant.

The construction time of the French plant would be even shorter than that of the Swedish one if it were built in France. It would also be competitive in price, but for some reason it has not been admitted into the final competition. At least the turbine supplier Alsthom Atlantique is not to blame.

12951

CSO: 5100/2553

FINLAND

LOCAL AUTHORITIES GETTING MORE POWER TO DECIDE REACTOR SITES

Helsinki HELSINGIN SANOMAT in Finnish 5 May 85 p 9

[Article: "IVO Informed Loviisa Decision Makers about Nuclear Power Plant Project"]

[Text] Imatran Voima [IVO] and Teollisuuden Voima [TVO] will conform, as far as possible, to the system which is in accordance with the new law being devised on nuclear energy. The bill is currently being discussed in the Finnish Parliament.

The new law directs that the local authorities decide whether there will be a nuclear power plant in their area. The cabinet cannot make an affirmative initial decision if the local authorities take a negative stand.

IVO informed the members of the Loviisa city council and the city board of directors about the current status of its plans concerning nuclear power plants.

The IVO representatives emphasized the decisive role of the local city council in making a decision on nuclear power.

A company planning a nuclear power plant must have an initial decision from the cabinet. This decision will then be discussed in the Parliament which either accepts or rejects it.

If the initial decision is affirmative, the applicant will choose a suitable location and a plant and apply for construction and operating licenses, which, in turn, will be discussed in the cabinet.

The locations concerned are mainly Loviisa and Olkiluoto, where the plans already make the expansion possible.

Experience as Starting Point

The chairman of the Loviisa city council, Olle Siren, stated that, in Loviisa, the starting point is the decision made by the city council in 1974. According to it, the decisions on eventual further construction shall be made when there is sufficient experience of the first two plants. "Now we will have to decide whether or not we have the experience," Siren said.

Also the surrounding communities of Loviisa will have their say in the matter. The project has already been discussed between the communities surrounding Loviisa in a meeting of their leading representatives and municipal employees. In the meeting held Thursday night, the joint committee of the communities stated that the district is operating in accordance with the new law on nuclear energy.

12951

CSO: 5100/2553

FINLAND

PREPARATIONS FOR SPENT NUCLEAR FUEL TO SOVIET UNION DESCRIBED

Helsinki HELSINGIN SANOMAT in Finnish 14 May 85 p 12

/Article: "Nuclear Waste Casks Arrived in Loviisa. Rail Transport to Soviet Union To Begin at the End of the Month"/

/Text/ A special Soviet train with its casks for transporting spent fuel from the Loviisa power plant arrived at the railway yard of Loviisa early Monday morning.

The four 90-ton casks for fuel transport were transferred in two shipments from the center of the city to the island of Hastholmen.

The road transport in the morning and in the afternoon went well.

This time the casks seem to be in good condition externally. Their metal surfaces were shiny and part of the painted surface had been retouched. Nevertheless, the Finns will inspect the condition of the casks according to their specifications. Only after that will they start filling the casks.

The casks will receive the spent fuel removed from the reactor of Loviisa 1 in 1980. The weight of the fuel is approximately 14 tons. Loading each cask with fuel takes 1 day. The whole transfer operation, including the transport, is estimated to take a little over 2 weeks. During the last week of May, the carefully guarded shipment towards the Soviet Union will start again, now for the third time.

Currently, the Soviet Union accepts spent fuel only from its partners cooperating in the production of nuclear power. However, at the beginning of this year, an offer was made also to Austria concerning the storage of spent nuclear fuel.

It was known that Austria had been in contact with China while looking for a solution to its nuclear waste management problem. The Soviet offer is known to be lower priced than that of the Chinese.

If the Government of Austria decides to make a contract with the Soviet Union, it can mean starting the Zwentendorf nuclear power plant, which has been mothballed.

The Austrians have not been able to start the 700-megawatt Zwentendorf power plant, which is the same age as Loviisa 1, due to a referendum made in 1978, in which the people rejected the starting of the plant. The result of the referendum was 50.5-49.5 percent.



Ydinpolttoaineen kuljetussäiliöt suojalaatikoineen näkyvät jälleen Loviisan katukuvassa.

Nuclear fuel shipment casks with their covers are seen again in the street scene of Loviisa.

FINLAND

SPECIAL TRAIN LEAVES FOR USSR WITH SPENT REACTOR FUEL

Fuel Supplied in 1980

Helsinki HELSINGIN SANOMAT in Finnish 28 May 85 pp 3, 8

[Article: "Special Train Transports Nuclear Waste to the Soviet Union"]

[Text] On Monday approximately 14 tons of spent fuel was loaded onto special Soviet railcars in Loviisa. This is the third time that spent fuel from the Loviisa power plant of Imatran Voima [IVO] is shipped to the Soviet Union.

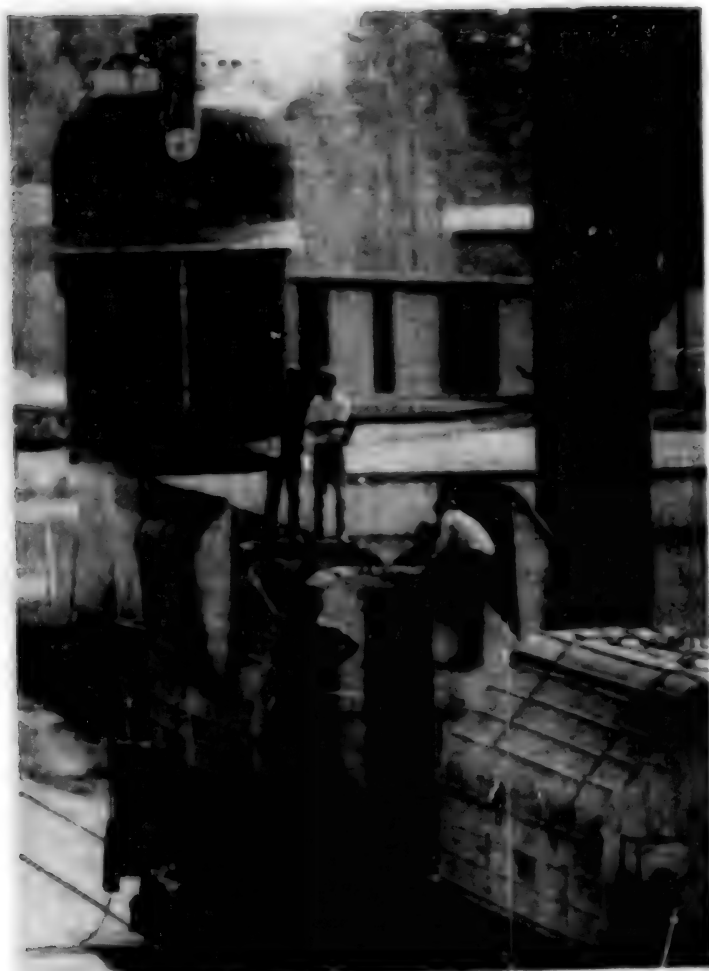
The train carrying the nuclear waste will probably depart on Tuesday. This special train will travel across the border via Lahti, Kouvola and Vainikkala.

The Ministry of Trade and Industry has issued a temporary license to IVO which applies only to this rail transport. A new license will be required for the following shipments.

The nuclear fuel now loaded comes from the reactor of Loviisa 1 from which it was removed in 1980.

While IVO is shipping its nuclear waste abroad, Teollisuuden Voima [TCO] is looking for a suitable domestic geological formation for its nuclear waste. TVO cannot ship nuclear waste abroad since it has not made a contract with any country.

Photo on following page



On Monday the work began to transfer nuclear waste shipping casks to Loviisa station, from where the special train will start its journey across the border.

Loviisa's Nuclear Waste Loaded again for Shipment to USSR. Rail Transport of Nuclear Waste to Begin on Tuesday.

IVO's third shipment of spent fuel towards the Soviet Union started on Monday when the project began by transporting the casks to Loviisa station.

The special train which arrived in Loviisa two weeks ago will transport the casks filled with spent fuel across the border via Lahti, Kouvola and Vainikkala. The journey of the special train should begin no later than today, Tuesday.

The Ministry of Trade and Industry has issued a temporary license to IVO which applies only to this rail transport. A new license will be required for the following shipment.

The fuel now loaded to go to the Soviet Union comes from the reactor of Loviisa 1 from where it was removed in 1980. It has been stored in the reactor building since then.

The present shipment contains 14 tons of spent fuel. It has been packaged in a transport cask weighing 90 tons, and loaded onto a 170-ton railcar.

In addition to the crew of VR [State Railways], a Soviet entourage, as well as Finnish supervisors, authorities and IVO representatives will accompany the shipment on the train.

TVO Choosing Research Objects

TVO cannot transfer spent fuel abroad since it has not made a contract with, for example, the Soviet Union. Therefore, it will have to store its spent fuel in a domestic geological formation.

According to TVO, the research on the final storage of spent fuel is in full swing.

The cabinet has made a decision according to which TVO has to choose 5-10 research locations by the end of the year. The final location will be selected from among them by the end of the century.

According to TVO, an active discussion on the location and the necessity of the final storage will be initiated on the municipal level at the end of the year.

TVO has already made test drills in the community of Lavia while looking for a suitable location.

According to the decision of the cabinet, efforts will be made to start the construction of a nuclear waste depository in 2010. The disposal of TVO's waste in the bedrock will begin in 2020.

Train Departs From Loviisa

Helsinki HELSINGIN SANOMAT in Finnish 29 May 85 p 9

[Article: "Train With Nuclear Waste Departed From Loviisa"]

[Text] A special train transporting spent fuel from Loviisa 1 left Tuesday night, carrying its warm cargo towards the Soviet Union. The train was scheduled to cross the border at Vainikkala during the night.

The cargo is now hotter than usual since it was in the power plant reactor for three years. On previous occasions, the nuclear fuel, which had been in the reactor for one or two years, was shipped in gas cooled casks. This time the cargo is transported in casks filled with water.

The shipment has a license issued only for this particular time. Next year, the Ministry of Trade and Industry will discuss issuing a new license for the corresponding shipment.

The main reason for the license being issued for this shipment only is that Finnish authorities do not have sufficient knowledge about the quality control of shipment casks. The radiation protection center has referred to that in its statement.

On the railway between Loviisa and Lahti, the train proceeded faster than on the previous occasions. On the reconstructed rail sections it was allowed the speed of 50 km per hour.

12956

CSO: 5100/2557

FINLAND

FAVORABLE DECISION ON FIFTH NUCLEAR PLANT EXPECTED SOON

Ministry Ready to License

Helsinki HELSINGIN SANOMAT in Finnish 30 May 85 p 3

[Article: "IVO and TVO Administrative Councils Also Urge Decision: 'Fifth Nuclear Power Plant Soon'"]

[Text] The administrative councils of Imatran Voima [Imatra Power] and Teollisuuden Voima [Industrial Power] have presented the Trade and Commerce Ministry with letters in which they express their concern about providing Finland with electricity in the 1990s and the possibilities for the companies to build up the capacity necessary for new electricity production.

The administrative councils, which are composed of politicians and industrialists, stress that Finland will need additional "basic power capacity" at the start of the next decade, even if all economically feasible cooperative projects for heat and electricity are fulfilled and as much domestic energy as possible is used.

The best "basic power alternative" is nuclear power, in the opinion of the administrative councils. The companies consider it the most economical and environment-friendly form of energy whose domestic level is high.

Taisto Turunen, head of the energy division of the Trade and Industry Ministry, says that the ministry is technically ready to handle a license application for a fifth nuclear power plant in the spirit of the new nuclear energy law, but in practice the decisions lie with the government and the Parliament.

The license application of IVO and TVO for a fifth nuclear power plant is expected at the ministry within a few months or even a few weeks.

Paper Cites Decreasing Opposition

Helsinki HELSINGIN SANOMAT in Finnish 1 Jun 85 p 2

[Editorial: "Decisionmakers Avoid Drafting Course of Action"]

[Text] The energy policy debate is floundering right now in Finland. The political decisionmakers are taking an especially fuzzy stand on alternative

solutions for the future of the country's electricity supply. Only large-scale industry and the big power plant companies in particular have a clear vision which they also present enthusiastically, even at the risk of losing credibility.

The severe winter increased electricity consumption to such a degree that the companies have found it proper to press for a decision on the power plant. Representing political parties, the members of Imatran Voima's administrative council have also signed a letter sent to the Trade and Commerce Ministry in which nuclear power is held to be the most economical and environment-friendly alternative.

Development is plainly in the direction of the nuclear power alternative. Opposition is decreasing, and a decision may finally be made in its favor. There may still be a question about how long it will take to bring the political decisions to maturity. During the last decade, fortunately, electricity production capacity was expanded so immoderately that there has been no rush for new solutions. Otherwise the situation would have become critical.

We cannot, of course, keep putting things off indefinitely without endangering the energy supply. If one alternative after another is rejected, we must have the courage to choose the one that remains, even if it is nuclear power. While the Trade and Commerce Ministry is at a perpetual impasse, it is proper that the enterprises responsible in practice for the adequate production of electricity attempt to stir it to action.

Trade and Commerce Minister Seppo Lindblom has promised some decisions by autumn at the earliest. Limits must also be gradually set. It is not enough for Finland to have a permanent and up-to-date planning system for electricity production. Also needed is the ability to make decisions implied by the plans. This is now emphatically required by industrial policy viewpoints as well. They are very essential and demanding in energy policy, something which the political decisionmakers have not perceived clearly enough.

Industry uses the major part of electricity production. Electricity is a substantial item of expenditure for the forest industry in particular, and investment schemes under consideration in the area are based on the need for increased electricity. If industry cannot forecast in an adequately dependable way the price development and availability of electricity, the negative effects on investment activity and employment can be very significant. It is inadvisable to respond with a shrug of the shoulders to the concern felt by the enterprises.

All the factors which will affect this matter in the future cannot be predicted with certainty. If we strive toward that end, far-reaching decisions are left unmade. The advantages and disadvantages of various alternatives should only be weighed in such a way that the best possible result is obtained with respect to the whole.

Maybe the planners, too, are bothered by the lack of good ideas. On the other hand, the power plant enterprises pursue their goals too colorlessly. Right now, however, the biggest threat to the electricity supply lies in the fact that the decisionmakers keep glancing around too much and do not dare to make the timely decisions which they know to be necessary.

FRANCE

BRIEFS

MURUROA ATOLL NUCLEAR TEST—France is reported to have carried out another nuclear test at its Mururoa Atoll test site in the South Pacific. New Zealand Government scientists said the explosion, estimated to have the strength of less than 1 kiloton of conventional explosive, was monitored by seismologists in the Cook Islands. It is the 71st test reported at Mururoa Atoll since France began underground testing there 10 years ago and the 4th so far this year. [Text] [Melbourne Overseas Service in English 0400 GMT 11 Jun 85]

CSO: 5100/2561

SWEDEN

MINISTER IN POLICY ADDRESS REJECTS STORING FOREIGN SPENT FUEL

Stockholm DAGENS NYHETER in Swedish 21 May 85 p 8

[Article by Kaa Eneberg]

[Text] The government definitely rejects the idea of having Sweden store nuclear waste from other countries. Sweden does not export nuclear technology to countries that have not approved the Non-Proliferation Treaty (NPT) or placed themselves under IAEA control. Guarantees of peaceful use are required from nuclear countries.

These assurances were given by Energy Minister Birgitta Dahl in a heated debate in parliament Monday on the subject of Swedish nuclear exports. She was under great provocation from Oswald Soderqvist of VPK [Left-Communist Party] who said that all the government's talk about satisfactory controls was "an old familiar refrain" that did not mean much in reality.

"What is to prevent South Korea, for example, where Sweden is helping to build up a so-called peaceful nuclear power program, from moving a peaceful reactor over to a military program that cannot be supervised by IAEA (International Atomic Energy Association) in Vienna?" Soderqvist wanted to know.

He added that not much deception was needed for this. For example the United States has done this quite openly with reports in its press.

"Put a stop to Swedish exports of nuclear technology. That is the only real guarantee that we will not contribute to a proliferation of nuclear arms technology," Oswald Soderqvist urged.

He referred to a statement from the new executive director of ASEA Atom [nuclear division of Swedish General Electric Corporation], Lars Torsek, who has ambitious plans for reactor production.

According to press reports in the Netherlands, purchase of an ASEA reactor was being considered but would be contingent on an agreement that Sweden would accept nuclear waste.

With reference to the hypothetical orders from the Netherlands and South Korea, Birgitta Dahl said that at present the government has no such matters

under consideration. But with regard to the reports on nuclear waste Dahl wanted to make it clear that the government definitely rejected the idea of storing waste from other countries.

Reprimanded

Speaking to Birgitta Hambreus of the Center Party she also pointed out that the nonsocialist governments since 1976 have discussed the possibility of accepting waste from Finland for temporary storage.

"But this government has made it clear to Finland that we have no intention of doing this," she said.

Dahl reprimanded Hambreus, who said it was immoral of Sweden to export nuclear technology that Sweden considers too dangerous to have in its own country.

"The popular referendum decision on 12 reactors and phasing nuclear power out by the year 2010 was not based on a belief that nuclear power is so dangerous that it should be banned but that it is so dangerous that it requires strict safety regulations," said Dahl, who accused Hambreus of gross distortions and of trying to give the impression that the government is deceiving the people.

Suspicious

Hambreus found it suspicious that Hans Blix, currently head of IAEA and formerly head of the campaign for the victorious Line 2 in the referendum, has designated Sweden as a suitable country for the storage of reactor waste, a suitable disposal center for the world's nuclear waste.

6578

CSO: 5100/2556

SWEDEN

NUCLEAR FUEL PROCESSING FIRM WOULD EXCHANGE WASTE WITH FRG

Stockholm DAGENS NYHETER in Swedish 24 May 85 p 8

[Article by Ingemar Lofgren]

[Text] The Swedish Nuclear Fuel Commission, SKB, wants to exchange spent nuclear fuel with West Germany.

SKB has asked the government to accept 24 tons of spent nuclear fuel from the Germans. In return West Germany has promised to assume responsibility for the 57 tons Sweden is storing in La Hague, France.

If the request clears all the necessary permits and safety regulations, the exchange of the spent nuclear waste would benefit both Sweden and West Germany, in the view of SKB, which probably has the support of the government.

At the moment Sweden has 57 tons of spent nuclear fuel lying in large tanks in La Hague. Under three processing contracts between SKB and the French firm Cogema or between the Swedish and French governments, another 672 tons are to be sent there for processing.

The 57 tons already shipped to France will be processed sometime in 1985 and 1986. In a few years the processed residue is scheduled to be shipped back to Sweden and placed in specially constructed facilities that do not yet exist.

Getting Out of Contracts

The Social Democrats have long criticized the processing method, which was promoted by the nonsocialist governments. Instead they say that we should directly dispose of our own waste here in Sweden.

Thus SKB's proposal for the exchange with West Germany seems made to order for the Social Democratic government, which has been trying all along to get out of the contracts the nonsocialist governments signed with the French.

The Germans, who have decided to process their nuclear fuel, have 24 tons of old so-called MOX fuel they don't know what to do with. The fuel is hard to dissolve, difficult to process and best suited for storage.

Good Chance

But if Sweden goes along with the SKB proposal and accepts the German fuel, West Germany has promised to take over Sweden's 57 tons in France. The Swedish government would thus be rid of its responsibility for the sensitive waste that is waiting there in La Hague. The point of the proposal is that the exchange can be arranged within the framework of the agreements in the view of SKB.

"What remains is a long approval procedure in which the government and safety authorities give their stamp of approval to the exchange deal," said SKB executive director Sten Bjurström in a statement to DAGENS NYHETER. "But since the present government prefers direct storage, I think there is a good chance of succeeding."

Energy Minister Birgitta Dahl had no comment to make Thursday on SKB's request to the government. The proposal must first be carefully examined to make sure it does not conflict with Swedish laws and the Non-Proliferation Treaty.

Birgitta Dahl has often said that we will not accept foreign nuclear waste. One can therefore ask if the SKB proposal is in conflict with her principles.

"Sweden will never serve as a waste disposal site for other countries; each country must solve its own waste problem," she told DAGENS NYHETER.

"But this exchange does not violate that principle. We are not accepting something we could otherwise avoid. Nor are we solving West Germany's problem since the Germans are accepting responsibility for a similar problem. Above all, if this plan goes through, it means that we will avoid contributing to increasing the amount of liberated plutonium," Birgitta Dahl said.

Responsibility

In order to get out of the rest of the Cogema contract for 672 tons SKB is negotiating with several firms and countries that might assume this responsibility. It has already been possible to reach an agreement with the Japanese power firm, Chubu, which will assume contract responsibility for 178 of the 672 tons.

"It is very good that SKB can free us within the contract framework from commitments in relation to processing that were made by former governments," Birgitta Dahl said.

On Thursday evening the environmental organization, Greenpeace, urged Birgitta Dahl to block the SKB proposal and stand by what she has said about not accepting foreign waste. Otherwise Sweden will become an international nuclear dump, in the view of Greenpeace.

6578

CSO: 5100/2556

END

END OF

FICHE

DATE FILMED

3 July 85